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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,682	03/19/2001	Yuji Fujiwara	MTS-3237US	9387

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EXAMINER	
ONUAKU, CHRISTOPHER O	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/811,682	FUJIWARA ET AL.	
	Examiner	Art Unit	
	Christopher Onuaku	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *21-23* is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☒ Claim(s) *See Continuation Sheet* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/8/04; 9/13/04 &*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims rejected are 1,9,10&16-20 (including when claims 17&19 depend on claims 1 or 10, and claims 18&20 depend on claims 9 or 16).
Continuation of Disposition of Claims: Claims objected to are 2-8,11-15,17&19 (including when claims 17&19 are dependent on one of claims 2-8&11-15).

DETAILED ACTION

Abstract

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the abstract contains more than one paragraph, and legal phraseology such as “means”. Correction is required.

See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,9,10,16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimoto et al (US 5,809,200).

Regarding claim 1, Nishimoto et al disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression, comprising:

a) a quantization means of quantizing a signal employing a quantization step (see quantizing section 5b of the Fig.3 of the JPEG encoder/decoder 5 of Fig.1; col.9, lines 22-48);

b) quantization information creating means of creating plura;l pieces of quantization information to specify the quantization step (see DCT section 5a of Fig.3 which subjects every 1-block segment of the output signal of the raster block converter 4 to discrete cosine transform, and thereby converts the 1-block into data representing a matrix of 8 by 8 DCT coefficients. The DCT section 5a informs the quantization section 5a of the DCT coefficient data. The quantization table 5c stores data representing a variable quantization factor referred to a variable Q factor. The basic quantization step sizes multiplied by the Q factor are used as final quantization step sizes (final quantization table values); col.9, lines 22-48);

c) encoding means of generating an encoded signal from the quantized signal (encoding section 5d of Fig.3; col.9, lines 49-63); and

d) recording means of recording a compressed signal having data containing the plural pieces of quantization information and the encoded signal (see storage unit 11 of Fig.1; col.5, lines 30-48).

Regarding claim 9, the claimed limitations of claim 9 are accommodated in the discussions of claim 1 above.

Regarding claim 10, Nishimoto et al disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression, comprising:

a) reproduction means of reproducing the data containing plural pieces of quantization information specifying a quantization step used in quantizing the signal and an encoded signal to be generated from the quantized signal from a compressed signal recorded as a signal having the data and the encoded signal (see Fig.1 which includes both recording and reproducing sections and includes the decoding section 5f, inverse quantizing section 5g, inverse DCT section 5h and the output from the inverse DCT section 5h goes to the raster block converter 4; col.9, line 66 to col.10, line 23);

b) quantization step configuration means of configuring a quantization step as a basis of the plural pieces of the reproduced quantization information (see discussions above);

c) inverse quantization means of making the inverse quantization in accordance with the configured quantization step on the basis of the reproduced encoded signal (see inverse quantizing section 5g, and inverse DCT section 5h of Fig.3; col.9, line 66 to col.10, line 23).

Regarding claim 16, the claimed limitations of claim 16 are accommodated in the discussions of claim 10 above.

Regarding claim 17, when claim 17 is dependent on claim 1 or claim 10, Nishimoto et al disclose a medium for carrying a program and/or the data for enabling a computer to execute all or some functions provided for means in whole or part of the invention , wherein the medium can be processed by the computer (see ROM 12 of Fig.1 as the claimed medium; and CPU 8 of Fig.1, as the claimed computing means; col.5, lines 16-30).

Regarding claim 18, when claim 18 is dependent on claim 9 or claim 16, the claimed limitations of claim 18 are accommodated in the discussions of claim 17 above.

Regarding claim 19, when claim 19 is dependent on claim 1 or claim 10, the claimed limitations of claim 19 are accommodated in the discussions of claim 17 above.

Regarding claim 20, when claim 20 is dependent on claim 9 or claim 16, the claimed limitations of claim 20 are accommodated in the discussions of claim 17 above.

Allowable Subject Matter

5. Claims 21-23 are allowable over the prior art of record.

6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 21, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a method for recording a compressed signal that has been encoded using at least one quantization step from a first set of quantization steps, where the methods includes the steps of reducing the first set of quantization steps into a second set of quantization steps and a third set of multiplier factors, wherein each quantization step in the first set is a different numerical value within the first set and each quantization step in the second set is a different

numerical value within the second set, and configuring the at least one quantization step of the first set by a respective one multiplier factor of the third set and by a respective one quantization step of the second set.

Claims 2-8,11-15,17&19 (when claims 17&19 are dependent on one of claims 2-8&11-15) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a signal recording apparatus, where the apparatus comprises wherein the quantization step is a product of a basic quantization step and a multiplier factor to be combined with the basic quantization step,

and the data, containing the plural pieces of quantization information and the encoded signal, is a quantization number for specifying the basic quantization step and the multiplier factor information for specifying the multiplier factor to be combined with the quantization step.

Regarding claim 4, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a signal recording apparatus, where the apparatus further comprising range conversion means of range converting the quantized signal using a range conversion multiplier factor which is represented as the power of 2.

Regarding claim 11, the invention relates to a signal recording apparatus and method which can implement a compression method capable of expanding the number of quantization steps, a signal reproducing apparatus and method which can reproduce

a signal compressed in accordance with the compression method, a medium, and an information assembly.

The closest reference Nishimoto et al (US 5,809,200) disclose a video signal recording apparatus wherein a first video signal is compressed into a second video signal in response to a controllable quantization factor which determines a degree of the compression.

However, Nishimoto et al fail to explicitly disclose a signal reproducing apparatus, where the apparatus further comprises wherein the quantized signal is range converted using a range conversion multiplier factor which is represented as the power of 2, and the data, containing the plural pieces of quantization information and the encoded signal, has the information regarding the range conversion multiplier factor.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shikakura (US 5,594,598) teaches an information recording apparatus capable of compressing information by variable-length coding or the like, as well as capable of varying the compression ratio at which the information is to be compressed.

Ohtsuki (US 5,654,760) teaches image compression, including quantizing image data in accordance with a prediction of the noise introduced by the quantization.

Yanagihara (US 5,557,479) teaches a recording apparatus of a digital video signal, a reproducing apparatus thereof, and a recording method thereof for use with a

digital VCR that compresses the digital video signal by a DCT circuit and records the compressed digital video signal on a magnetic tape by a rotating head.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Onuaku whose telephone number is 571-272-7379. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on 571-272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

COO

12/7/05

James J. Groody
Supervisory Patent Examiner
Art Unit 262~~2~~ 2616